

transceivers, said one responder transceiver transmitting a response message to the second commander transceiver if the waiting period has expired and the second interrogation message specifies for response a set of one or more addresses which include the responder's address;

(c) whereby any response message transmitted by said one responder transceiver to a second commander transceiver will not collide with any response message transmitted by another responder transceiver in response to the first interrogation message, thereby avoiding any false indication that two responder transceivers both have addresses belonging to said set of one or more addresses specified for response in the first interrogation message.

²
~~25~~. A method of addressing messages from a commander transceiver to a selected one or more of a number of responder transceivers, comprising the steps of:

(A) establishing a first predetermined number of bits to be used for unique identification numbers, and establishing for each responder transceiver a unique identification number having said predetermined number of bits;

(B) establishing a second predetermined number of bits to be used for arbitration addresses, the second number being less than the first number, and establishing a set of possible arbitration addresses having said second number of bits;

(C) the commander transceiver transmitting a first Generate command message requesting responder transceivers which receive the first Generate command message to select a new arbitration address;

(D) the commander transceiver transmitting an Identify command message requesting responder transceivers having arbitration addresses within a specified group of arbitration addresses to respond identifying themselves, said specified group being less than or equal to the entire set of possible arbitration addresses; and

(E) after receiving the first Generate command message, each responder transceiver choosing an arbitration address from the set of possible arbitration addresses, wherein each responder transceiver chooses its arbitration address independently of arbitration addresses chosen by all other responder transceivers; and

(F) after receiving the Identify command message, each responder transceiver
(1) determining whether its chosen arbitration address is within the group specified in the Identify command message, and, only if it is, then
(2) transmitting an Arbitration ID message containing its chosen arbitration address and transmitting a Unique ID message containing its unique identification number.

³
~~26~~. A method according to claim ²~~25~~, wherein the Arbitration ID message and the Unique ID message transmitted by each responder transceiver are combined as a single message transmitted by said transponder.

4
27. A method according to claim ²25, further comprising the subsequent steps of:

in response to receiving Arbitration ID messages from different responder transceivers containing the same arbitration address, the commander transceiver transmitting a second Generate command message; and

in response to receiving the second Generate command message, each responder transceiver choosing an arbitration address from the set of possible arbitration addresses to replace its previously chosen arbitration address, wherein each responder transceiver chooses its arbitration address independently of any arbitration addresses chosen by other responder transceivers.

5
28. A method according to claim ²25, further comprising the subsequent steps of:

in response to receiving Arbitration ID messages from different responder transceivers containing the same chosen arbitration address, the commander transceiver transmitting a second Generate command message addressed to a specified group of arbitration addresses, wherein the group specified in the second Generate message includes said same chosen arbitration address and is less than or equal to the entire set of possible arbitration addresses; and

each responder transceiver which receives the second Generate command message:

(i) determining whether its most recently chosen arbitration address is within the group of arbitration addresses specified in the second Generate command message, and, only if so, then

(ii) choosing an arbitration address from the set of possible arbitration addresses to replace its previously chosen arbitration address, wherein said responder transceiver chooses its arbitration address independently of any arbitration addresses chosen by other responder transceivers.

6
29. A method according to claim ²25, wherein

in response to receiving an undamaged Arbitration ID message containing the arbitration address of a responder transceiver, the commander transceiver transmitting a command message individually addressed to that responder transceiver; and

the step of each responder transceiver transmitting the Unique ID message is delayed until the responder transceiver receives said individually addressed command message from the commander transceiver.

7
30. A method according to claim ²25, further comprising the steps of:

providing in each responder transceiver a memory device which includes a Response Lock flag having a clear state and a set state;

the commander transceiver, before transmitting an Identify command message for the first time, transmitting a Clear Response Lock command message;

6 each responder transceiver, upon receiving from the commander transceiver a Clear
7 Response Lock command message, clearing the Response Lock flag within the transceiver;
8 after receiving an undamaged Arbitration ID message containing the arbitration address of a
9 responder transceiver, the commander transceiver transmitting a Set Response Lock command
10 message addressed to that responder transceiver;

11 each responder transceiver, upon receiving from the commander transceiver a Set Response
12 Lock command message addressed to said responder transceiver, setting the Response Lock flag
13 within the transceiver; and

14 each responder transceiver, after receiving an Identify command message:

15 (i) determining whether the Response Lock flag within said responder transceiver is
16 set, and, if so, then

17 (ii) not performing said step of transmitting an Arbitration ID message and a Unique
18 ID message, irrespective of whether the arbitration address of said responder transceiver is within
19 the group specified in the Identify command message.

8 2
1 31. A method according to claim 25, further comprising the steps of:

2 providing in each responder transceiver a memory device which includes a Response Lock
3 flag having a clear state and a set state;

4 the commander transceiver, before transmitting an Identify command message for the first
5 time, transmitting a Clear Response Lock command message;

6 each responder transceiver, upon receiving from the commander transceiver a Clear
7 Response Lock command message, clearing the Response Lock flag within the transceiver;

8 after receiving an undamaged Arbitration ID message containing the arbitration address of a
9 responder transceiver, the commander transceiver transmitting a Set Response Lock command
10 message addressed to that responder transceiver;

11 each responder transceiver, upon receiving from the commander transceiver a Set Response
12 Lock command message addressed to said responder transceiver, setting the Response Lock flag
13 within the transceiver;

14 in response to receiving Arbitration ID messages from different responder transceivers
15 containing the same arbitration address, the commander transceiver transmitting a second Generate
16 command message; and

17 in response to receiving the second Generate command message, each responder transceiver:

18 (i) determining whether the Response Lock flag within said responder transceiver is
19 clear, and, only if so, then

20 (ii) choosing an arbitration address for said responder transceiver from the set of
21 possible arbitration addresses to replace its previously chosen arbitration address, wherein each
22 responder transceiver chooses its arbitration address independently of any arbitration addresses

23 chosen by other responder transceivers.

9

1 32. For use with a number of responder transceivers, each of which is characterized by an address, a
2 method for a commander transceiver to interrogate the responder transceivers to determine their
3 addresses, comprising the steps of:

4 (A) providing in each responder transceiver a memory device which includes a Response
5 Lock flag having a clear state and a set state;

6 (B) the commander transceiver transmitting a Clear Response Lock command message;

7 (C) each responder transceiver which receives the Clear Response Lock command message
8 clearing the Response Lock flag within said responder transceiver;

9 (D) the commander transceiver transmitting a number of Identify command messages,
10 wherein each Identify command message requests each responder transceiver having an address
11 within a specified group of addresses to identify itself, and wherein each respective group specified
12 in each respective Identify command message is less than or equal to the entire set of possible
13 addresses;

14 (E) each responder transceiver which receives an Identify command message:

15 (1) determining whether the address of said responder transceiver is within the subset
16 specified in the received Identify command message and determining whether said responder's
17 Response Lock flag is clear, and, only if both determinations are true, then

18 (2) transmitting an ID Response message containing the address of said responder
19 transceiver;

20 (F) the commander transceiver:

21 (1) determining whether it receives an undamaged ID Response message from a
22 responder transceiver, and, if so, then

23 (2) transmitting a Set Response Lock command message addressed to the responder
24 transceiver from which the commander transceiver received the uncorrupted ID Response message;
25 and

26 (G) each responder transceiver which receives a Set Response Lock command message
27 addressed to that responder transceiver:

28 setting the Response Lock flag within that responder transceiver.

10

1 33. A method for a commander transceiver to interrogate a number of responder transceivers to
2 determine their addresses, comprising the steps of:

3 (A) establishing a set of possible addresses for the responder transceivers;

4 (B) the commander transceiver transmitting a first Generate command message requesting
5 responder transceivers having addresses within a specified group of addresses to generate new

addresses, the specified group being less than or equal to the entire set of possible addresses;

(C) each responder transceiver which receives the first Generate command message:

only if the address of said responder transceiver is within the group specified in the first Generate command message, assigning to itself an address within said set of possible addresses;

(D) the commander transceiver transmitting an Identify command message requesting responder transceivers having addresses within a specified group of addresses to identify themselves, wherein the group specified in the Identify command message is less than or equal to the entire set of possible addresses;

(E) each responder transceiver which receives an Identify command message:

only if the address of said responder transceiver is within the group specified in the received Identify command message, transmitting an ID Response message containing the address of said responder transceiver;

(F) in response to receiving ID Response messages from a plurality of responder transceivers, the commander transceiver:

(1) determining whether the ID Response messages sent by the responder transceivers indicate a likelihood that any one of the addresses was assigned to two or more different responder transceivers, and, if so, then

(2) transmitting a second Generate command message requesting responder transceivers having addresses within a specified group of addresses to generate new addresses, the specified group being less than or equal to the entire set of possible addresses;

(G) each responder transceiver which receives the second Generate command message:

only if the address of said responder transceiver is within the group specified in the second Generate command message, assigning to itself an address within said set of possible addresses; and

(H) returning to Step (D) of the commander transceiver transmitting an Identify command message.

11 34. An interrogation method according to claim 33, wherein:

said Step (C) of assigning itself an address further comprises said responder transceiver choosing its address from the set of possible addresses independently of other responder transceivers' choosing their respective addresses; and

said Step (G) of assigning itself an address further comprises said responder transceiver choosing its address from the set of possible addresses independently of other responder transceivers' choosing their respective addresses.

12 35. An interrogation method according to claim 33, wherein Step (F)(1) of the commander transceiver determining whether any one of the addresses was assigned to two or more different

3 responder transceivers further comprises the sub-steps of:

4 repeating Steps (D) and (E) using different specified groups of addresses in successive
5 repetitions of Step (D); and

6 after each repetition of Step (E), the commander transceiver determining that none of the
7 individual addresses within the group specified in the Identify command message transmitted in the
8 preceding Step (D) was assigned to two or more different responder transceivers if the commander
9 transceiver receives an ID Response message from either zero or one responder transceiver during
10 said Step (E).

¹³
1 ~~36~~. An interrogation method according to claim ¹⁰~~33~~, further comprising the step of:

2 in response to the commander transceiver receiving an undamaged ID Response message
3 from a responder transceiver, the commander transceiver transmitting a Data Transfer command
4 message individually addressed to said responder transceiver.

¹⁴
1 ~~37~~. An interrogation method according to claim ¹³~~36~~, further comprising the step of:
2 after the commander transceiver transmits a Data Transfer command message individually
3 addressed to a responder transceiver, said responder transceiver transmitting to the commander
4 transceiver a message containing data acquired by said responder transceiver.

¹⁵
1 ~~38~~. An interrogation method according to claim ¹⁰~~33~~, further comprising the steps of:
2 in response to the commander transceiver receiving an undamaged ID Response message
3 from a responder transceiver, the commander transceiver transmitting a Set Response Lock
4 command message individually addressed to said responder transceiver; and
5 if said one responder transceiver receives the Set Response Lock command message, said
6 responder setting a Response Lock flag in a memory device within said responder transceiver.

¹⁶
1 ~~39~~. An interrogation method according to claim ¹⁵~~38~~, wherein Step (G) further comprises the sub-steps
2 of:

3 before assigning to itself an address, each responder transceiver determining whether its
4 Response Lock flag is set, and, if so, then

5 not performing the step of assigning to itself an address in Step (G), irrespective of whether
6 its address is within the group specified in the second Generate command message, whereby the
7 responder transceiver retains its previously assigned address.

¹⁷
1 ~~40~~. An interrogation method according to claim ¹⁶~~39~~, wherein the group specified in the second
2 Generate command message is the same as the group specified in the first Generate command
3 message.

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¹⁸
1 ~~41~~. An interrogation method according to claim ¹⁸~~33~~, wherein the group specified in the second
2 Generate command message includes each of said addresses which was determined by the
3 commander transceiver in Step (F)(1) as having a likelihood of belonging to at least two responder
4 transceivers.

¹⁹
1 ~~42~~. A method for a commander transceiver to interrogate a number of responder transceivers to
2 determine their addresses, comprising the steps of:

3 (A) providing in each responder transceiver a memory device which includes a Response
4 Lock flag having a clear state and a set state;

5 (B) establishing a set of possible addresses for the responder transceivers;

6 (C) the commander transceiver transmitting a Clear and Generate command message;

7 (D) each responder transceiver which receives the Clear and Generate command message:

8 (1) clearing the Response Lock flag within said responder transceiver,

9 (2) assigning to itself an address chosen from said set of possible addresses, and

²⁰
10 (3) transmitting an ID Response message containing the address of said responder
11 transceiver;

12 (E) the commander transceiver transmitting a Set Response Lock command message
13 addressed to each responder transceiver from which the commander transceiver receives an
14 uncorrupted ID Response message;

15 (F) each responder transceiver, upon receipt of a Set Response Lock command message
16 addressed to that responder transceiver, setting the Response Lock flag within that responder
17 transceiver;

18 (G) the commander transceiver:

19 (1) determining whether the ID Response messages sent by the responder transceivers
20 indicate a likelihood that any one of the addresses was assigned to two or more different responder
21 transceivers, and, if so, then

22 (2) transmitting a Generate command message;

23 (H) each responder transceiver which receives the Generate command message:

24 (1) determining whether the Response Lock flag within that responder transceiver is
25 clear, and, if so, then

26 (2) assigning to itself an address chosen from said set of possible addresses, and
27 transmitting an ID Response message containing the address of said responder transceiver; and

28 (I) returning to Step (E) of the commander transceiver transmitting a Set Response Lock
29 command message.

²⁰
1 ~~43~~. A method according to claim ¹⁹~~42~~, further comprising the steps of:

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2 after transmitting the Clear and Generate command message, the commander transceiver
3 transmitting a first Identify command message requesting responder transceivers having addresses
4 within a specified group of addresses to identify themselves, wherein the group specified in the first
5 Identify command message is less than or equal to the entire set of possible addresses; and
6 after transmitting the Generate command message, the commander transceiver transmitting a
7 second Identify command message requesting responder transceivers having addresses within a
8 specified group of addresses to identify themselves, wherein the group specified in the second
9 Identify command message is less than or equal to the entire set of possible addresses;
10 wherein each responder transceiver delays transmitting an ID Response message until it
11 receives from the commander transceiver an Identify command message specifying a group of
12 addresses which includes the address of said responder transceiver.

21 20
1 ~~44~~. A method according to claim ~~43~~, wherein Step (G)(1) of the commander transceiver determining
2 whether the ID Response messages indicate a likelihood of one address being assigned to different
3 responders further comprises the sub-step of:

4 after each transmission of an Identify command message, the commander transceiver
5 determining that none of the individual addresses within the group specified in said Identify message
6 was assigned to different responder transceivers if the commander transceiver receives an ID
7 Response message from either zero or one responder transceiver in response to said Identify
8 command message.

22 20
1 ~~45~~. A method according to claim ~~43~~, wherein the commander transceiver transmits the Clear and
2 Generate command message in Step (C) concurrently with transmitting the first Identify command
3 message, wherein the Clear and Generate command message and the first Identify command
4 message are combined in a single transmitted message.

23 20
1 ~~46~~. A method according to claim ~~43~~, wherein:
2 (a) said Step (D)(2) of assigning to itself an address further comprises said responder
3 transceiver choosing its address independently of other responder transceivers' choosing their
4 respective addresses; and
5 (b) said Step (H)(2) of assigning to itself an address further comprises said responder
6 transceiver choosing its address independently of other responder transceivers' choosing their
7 respective addresses.

24 20
1 ~~47~~. An interrogation method according to claim ~~43~~, wherein said Step (D)(3) performed by each
2 responder transceiver further comprises the sub-steps of:
3 (a) before performing the sub-step of transmitting said ID Response message, determining

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whether the Response Lock flag within said responder transceiver is set, and, if so, then
(b) not performing the sub-step of transmitting said ID Response message, irrespective of
whether the address of said responder transceiver is within the group specified in a received Identify
command message.

²⁵
~~48~~. An interrogation method according to claim ¹⁹~~42~~, wherein said Step (D)(3) performed by each
responder transceiver further comprises the sub-steps of:

(a) before performing the sub-step of transmitting said ID Response message, determining
whether the Response Lock flag within said responder transceiver is set, and, if so, then
(b) not performing the sub-step of transmitting said ID Response message.

²⁶
~~49~~. An interrogation method according to claim ¹⁹~~42~~, wherein said Step (F) of each responder
transceiver setting its Response Lock flag upon receipt of a Set Response Lock command message
further includes the sub-step of:

said responder transceiver transmitting to the commander transceiver a message containing
data acquired by the responder transceiver.

²⁷
~~50~~. A method for a commander transceiver to interrogate a number of responder transceivers to
determine their addresses, comprising the steps of:

(A) providing in each responder transceiver a memory device which includes a Response
Lock flag having a clear state and a set state;

(B) establishing a set of possible addresses for the responder transceivers;

(C) the commander transceiver transmitting a Clear and Generate command message;

(D) each responder transceiver which receives the Clear and Generate command message:

(1) clearing a Response Lock flag in a memory device within that responder
transceiver, and

(2) assigning to itself an address by choosing its address from said set of possible
addresses independently of other responder transceivers' choosing their respective addresses;

(E) the commander transceiver selecting a subset of addresses which is less than or equal to
the entire set of possible addresses;

(F) the commander transceiver transmitting an Identify command message requesting
responder transceivers having addresses within a specified subset of addresses to identify
themselves, wherein the subset specified in the Identify command message is the subset last selected
by the commander transceiver;

(G) each responder transceiver which receives an Identify command message:

(1) determining whether the address of said responder transceiver is within the subset
specified in the received Identify command message, and, only if true, then

21 (2) transmitting an ID Response message containing the address of said responder
 22 transceiver;
 23 (H) the commander transceiver:
 24 (1) determining whether it receives an ID Response message from a responder
 25 transceiver which is not corrupted by a collision with another message, and, if so, then
 26 (2) transmitting a Set Response Lock command message addressed to the responder
 27 transceiver from which the commander transceiver received the uncorrupted ID Response message;
 28 (I) each responder transceiver, upon receipt of a Set Response Lock command message
 29 addressed to that responder transceiver, setting the Response Lock flag within that responder
 30 transceiver;
 31 (J) the commander transceiver determining whether the previously transmitted Identify
 32 command messages specified every subset which could contain a unique responder transceiver, and
 33 (1) if so, then performing Step (M), otherwise
 34 (2) if not, then performing Step (K);
 35 (K) the commander transceiver selecting a subset of addresses, the selected subset being less
 36 than or equal to the entire set of possible addresses;
 37 (L) returning to Step (F) of the commander transceiver transmitting a Identify command
 38 message;
 39 (M) the commander transceiver:
 40 (1) determining whether the commander transceiver previously received colliding
 41 messages in response to a previously transmitted Identify command message which specified a
 42 subset containing only a single responder address, and, if so, then
 43 (2) transmitting a Generate command message;
 44 (N) each responder transceiver which receives the Generate command message:
 45 (1) determining whether the Response Lock flag within that responder transceiver is
 46 clear, and, if so, then
 47 (2) assigning to itself an address by choosing its address from said set of possible
 48 addresses independently of other responder transceivers' choosing their respective addresses; and
 49 (O) returning to Step (E) of the commander transceiver selecting a subset of addresses.

28
 51. An interrogation method according to claim 30, wherein said Step (K) of the commander
 2 transceiver selecting a subset of addresses further comprises the selected subset being different from
 3 the subset specified in the Identify command message last transmitted by the commander
 4 transceiver.

29
 52. An interrogation method according to claim 30, wherein said Step (G) performed by each
 2 responder transceiver further comprises the sub-steps of:

3 (a) before performing Sub-Step (G)(2) of transmitting said ID Response message,
4 determining whether the Response Lock flag within said responder transceiver is set, and, if so, then
5 (b) not performing Sub-Step (G)(2) of transmitting said ID Response message, irrespective of
6 the address determination in Sub-Step (G)(1).

1 ³⁰~~53~~. An interrogation method according to claim ²⁷~~50~~, wherein said Step (I) of each responder
2 transceiver setting its Response Lock flag upon receipt of a Set Response Lock command message
3 further includes the sub-step of:
4 said responder transceiver transmitting to the commander transceiver a message containing
5 data acquired by the responder transceiver.

1 ³¹~~54~~. An interrogation method according to claim ²⁷~~50~~, wherein the commander transceiver transmits
2 the Clear and Generate command message in Step (C) concurrently with transmitting the Identify
3 command message in the first performance of Step (F), wherein the Clear and Generate command
4 message and the Identify command message are combined in a single transmitted message.

1 ³²~~55~~. A method for a responder communications transceiver to identify itself in response to messages
2 received from a commander communications transceiver, comprising the steps of:
3 establishing a set of possible responder arbitration addresses; and
4 in response to receiving a first Generate command message from a commander transceiver,
5 said responder transceiver assigning to itself an arbitration address by randomly choosing a first
6 address from the set of possible responder arbitration addresses;
7 wherein said responder transceiver chooses its arbitration address independently of
8 arbitration addresses chosen by any other responder transceiver.

1 ³³~~56~~. A method according to claim ³²~~55~~, wherein the responder transceiver performs the step of
2 choosing its arbitration address only if the arbitration address of the responder currently is within a
3 group of addresses specified in the first Generate command message.

1 ³⁴~~57~~. A method according to claim ³²~~55~~, further comprising the step of:
2 in response to receiving a second Generate command message from the commander
3 transceiver, said responder transceiver randomly choosing a second address from the set of possible
4 responder addresses and assigning to itself as its arbitration address the second address in place of
5 the first address.

1 ³⁵~~58~~. A method according to claim ³⁴~~57~~, wherein the responder transceiver performs the step of
2 choosing a second address as its arbitration address only if the arbitration address of the responder

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currently is within a group of addresses specified in the second Generate command message.

³⁶
~~59~~. A method according to claim ³²~~55~~, further comprising the step of:

after the step of choosing its arbitration address, the responder transceiver transmitting an Arbitration ID message containing its chosen arbitration address.

³⁷
~~60~~. A method according to claim ³⁶~~59~~, wherein the responder transceiver performs the step of transmitting an Arbitration ID message only after the responder transceiver receives from the commander transceiver an Identify command message which specifies for response a group of addresses which includes the arbitration address of the responder transceiver.

³⁸
~~61~~. A method according to claim ³⁶~~59~~, further comprising the step of: in response to receiving from the commander transceiver a message individually addressed to said responder, setting a Response Lock flag in a memory device within the responder transceiver.

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~~62~~. A method according to claim ³⁸~~61~~, wherein the step of setting the Response Lock flag further comprises said responder transceiver transmitting to the commander transceiver a message containing data stored in a data memory device within the responder transceiver.

⁴⁰
~~63~~. A method according to claim ³⁸~~61~~, further comprising the step of: in response to receiving a second Generate command message from the commander transceiver, and only if said responder's Response Lock flag is not set, said responder transceiver choosing a second random address from the set of possible responder addresses and assigning to itself as its arbitration address the second random address in place of the first random address.

⁴¹
~~64~~. A method according to claim ³⁸~~61~~, further comprising the step of: in response to receiving from the commander transceiver an Identify command message which specifies for response a group of addresses which includes the arbitration address of the responder transceiver, and only if said responder's Response Lock flag is not set, said responder transceiver transmitting an Arbitration ID message containing its chosen arbitration address.

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~~65~~. A method according to claim ³⁶~~59~~, further comprising the step of: in response to receiving from the commander transceiver a Set Response Lock command message addressed to said responder transceiver, said responder transceiver setting a Response Lock flag in a memory device within the responder transceiver.

⁴³
~~66~~. A method according to claim ⁴²~~65~~, wherein the step of setting the Response Lock flag further

comprises said responder transceiver transmitting to the commander transceiver a message containing data stored in a data memory device within the responder transceiver.

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67. A method according to claim 65, further comprising the step of:

in response to receiving a second Generate command message from the commander transceiver, and only if said responder's Response Lock flag is not set, said responder transceiver choosing a second random address from the set of possible responder addresses and assigning to itself as its arbitration address the second random address in place of the first random address.

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68. A method according to claim 65, further comprising the step of:

in response to receiving from the commander transceiver an Identify command message which specifies for response a group of addresses which includes the arbitration address of the responder transceiver, and only if said responder's Response Lock flag is not set, said responder transceiver transmitting an Arbitration ID message containing its chosen arbitration address.

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69. A method for a responder transceiver to identify itself in response to messages received from a commander transceiver, comprising the steps of:

(a) establishing for said responder transceiver a unique identification number having a first number of bits;

(b) establishing a set of possible arbitration addresses, wherein each arbitration address has a second number of bits, the second number being less than the first number;

(c) in response to receiving a first Generate command message from a commander transceiver, said responder transceiver assigning to itself an arbitration address by randomly choosing a first address from said set of possible responder arbitration addresses, wherein said responder transceiver chooses its arbitration address independently of arbitration addresses chosen by any other responder transceiver; and

(d) in response to receiving from the commander transceiver an Identify command message which specifies for response a group of addresses which includes the arbitration address of the responder transceiver:

(i) said responder transceiver transmitting an Arbitration ID message containing its chosen arbitration address, and

(ii) said responder transceiver transmitting a Unique ID message containing its unique identification number.

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70. A method according to claim 69, wherein the step of said responder transceiver transmitting the Unique ID message is delayed until the responder transceiver receives from the commander transceiver a message individually addressed to said responder's arbitration address.

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1 71. A method according to claim 69, wherein the Arbitration ID message and the Unique ID
2 message are combined as a single transmitted message.

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1 72. A method according to claim 69, further comprising the steps of:
2 in response to receiving a second Generate command message from the commander
3 transceiver, said responder transceiver choosing a second random address from the set of possible
4 responder addresses and assigning to itself as its arbitration address the second random address in
5 place of the first random address.

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1 73. A method according to claim 72, wherein the responder transceiver performs the step of
2 choosing a second random address and assigning the second address as its arbitration address only if
3 the arbitration address of the responder currently is within a group of addresses specified in the
4 second Generate command message.

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1 74. A method according to claim 69, further comprising the step of:
2 in response to receiving from the commander transceiver a message individually addressed to
3 said responder's arbitration address, setting a Response Lock flag in a memory device within the
4 responder transceiver.

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1 75. A method according to claim 74, further comprising the step of:
2 in response to receiving a second Generate command message from the commander
3 transceiver, and only if said responder's Response Lock flag is not set, said responder transceiver
4 choosing a second random address from the set of possible responder addresses and assigning to
5 itself as its arbitration address the second random address in place of the first random address.

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1 76. A method according to claim 74, wherein said responder transceiver performs the step of
2 transmitting an Arbitration ID message only if said responder's Response Lock flag is not set.

REMARKS

Claim 1 is cancelled. The only claims now pending are the newly added claims 24-76.

Claim 24 is directed to an aspect of Applicant's invention for which no claims were presented in the parent application. Specifically, claim 24 is directed to a method of avoiding confusion when two commander transceivers are communicating with the same responder transceiver. In the claimed invention, if the two commander transceivers send interrogation messages close together in time, the responder does not respond to the second commander until after a certain time has elapsed following the interrogation message from the first transceiver.

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